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10/571,424	01/11/2007	Yoshio Kojima	27616-00001-US1	7562
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CONNOLLY BOVE LODGE & HUTZ LLP			VAN, LUAN V	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/571,424	Applicant(s) KOJIMA ET AL.
	Examiner LUAN V. VAN	Art Unit 1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 11 January 2007.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-20 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-20 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement (PTO/SB/08) _____
Paper No(s)/Mail Date June 8, 2006.

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5) Notice of Informal Patent Application

6) Other: _____.

DETAILED ACTION

Claim Status

Claims 1-20 are pending in the present application.

Abstract

Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

The abstract of the disclosure is objected to because the abstract is more than one paragraph and does not concisely summarize the invention. The abstract should be in narrative form and generally limited to a single paragraph within the range of 50 to 150 words. Correction is required. See MPEP § 608.01(b).

Content of Specification

- (a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.
- (b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.
- (c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.
- (d) The Names Of The Parties To A Joint Research Agreement: See 37 CFR 1.71(g).
- (e) Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on compact discs beginning on September 8, 2000.
- (f) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:
 - (1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."
 - (2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."

(g) **Brief Summary of the Invention:** See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.

(h) **Brief Description of the Several Views of the Drawing(s):** See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.

(i) **Detailed Description of the Invention:** See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.

(j) **Claim or Claims:** See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must com Patzschke et al. mence on separate sheet or electronic page (37 CFR 1.52(b)(3)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).

(k) **Abstract of the Disclosure:** See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet

published by the International Bureau (IB) of the World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).

(l) Sequence Listing. See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all sequences disclosed in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.

The disclosure is objected to because of the following informalities: the "summary of the invention" section should be placed before the "detailed description of the invention" section. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-9 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps or elements, such omission amounting to a gap between the steps. See MPEP § 2172.01.

The independent method claims 1 and 6-8 recite the resultant effects of the process, such as inhibiting spark discharge phenomenon and electric resistance, however, the claims do not recite any method steps that would enable these resultant effects to occur. Therefore, the instant claims are indefinite for omitting the essential steps, because the claims do not recite any method steps would enable these resultant effects to occur.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 10-18 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Independent claims 10 and 15-17 are directed to a composition, however, the claims do not recite any components in the composition. It is unclear what composition the applicant is claiming. The claims simply recite resultant effects of the deposited coating. The instant claims are deemed to be indefinite, because it is unclear what composition would enable these resultant effects to occur.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patzschke et al. (US 4252703) in view of either Sakamoto et al. (US 6790329) or Muramatsu et al. (JP pub 2001-019878).

Regarding claims 1 and 6-8, Patzschke et al. teaches a method of cathodically electrocoating a substrate (column 11 lines 1-9) using a composition comprising an amine-modified epoxy resin which is mixed with the crosslinking resin containing terminal carboxyl groups (column 1 line 66 -- column 2 line 39). It is noted that the formation of the electric through-hole which inhibits to spark discharge phenomenon and electric resistance appears to be resultant effects of the composition having an acid group. Therefore, since the composition of Patzschke et al. contains the acid group (i.e., carboxyl group) in the amine-modified epoxy resin, one having ordinary skill in the art

would expect that the same electric through-hole formation and the resultant effects would occur in the process of Patzschke et al.

Patzschke et al. does not explicitly teach a steel substrate.

Sakamoto et al. teaches electrodepositing on steel panels which include parts of cars, motorcycles and like (column 25 lines 29-37).

Muramatsu et al. teaches an electrodeposition method of forming a coating film on a galvanized steel sheet which prevents the occurrence of gas pinholes and exhibits a high throwing power (Abstract).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have electrodeposited on the steel substrate of either Sakamoto et al. or Muramatsu et al. in the method of Patzschke et al., because it would form a useful coating on parts of cars, motorcycles and the like (column 25 lines 29-37 of Sakamoto et al.).

Regarding claim 2, Patzschke et al. teaches a composition comprising an amine-modified epoxy resin which is mixed with the crosslinking resin containing terminal carboxyl groups (column 1 line 66 -- column 2 line 39).

Regarding claim 3, Patzschke et al. teaches the acid group is a product reaction of an acid anhydride and an amino group (column 9 lines 43-53). Furthermore, it is noted that how the acid group is derived or formed does not further limit the instant claim since the history of the acid group does not affect the method claims.

Regarding claim 4, Patzschke et al. teaches that the acid group is derived from a resin containing an acid group (column 9 lines 43-47). Furthermore, it is noted that how

the acid group is derived or formed does not further limit the instant claim since the history of the acid group does not affect the method claims.

Regarding claim 5, Patzschke et al. teaches that the acid group is derived from an amphoteric ion group-containing resin (i.e., any of the carboxylic acid groups, column 9 lines 43-47). Furthermore, it is noted that how the acid group is derived or formed does not further limit the instant claim since the history of the acid group does not affect the method claims.

Claims 9 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patzschke et al. (US 4252703) in view of either Sakamoto et al. (US 6790329) or Muramatsu et al. (JP pub 2001-019878), and further in view of Reed (US 4828654).

Patzschke et al., Muramatsu et al. and Sakamoto et al. teach the method as described above. In addition, Patzschke et al. teaches a bath temperature of 20-35°C (column 11 lines 4-5) and a concentration of the solid contents of 5-30% by weight (column 10 lines 56-60). Furthermore, since the composition of Patzschke et al. contains the acid group (i.e., carboxyl group) in the amine-modified epoxy resin, it would have been obvious to one having ordinary skill in the art to expect that the same resultant effect, i.e., elevating the voltage at a constant rate, would occur in the process of Patzschke et al.

Patzschke et al. does not explicitly teach the ratio of the electrode in the coated article or the distance between the electrodes.

Reed teaches that "by spacing the cathode a relatively large distance from the anode, and by making the effective size of the cathode (the articles in the panel) larger in size than the anode, there is a more uniform distribution of the electroplating field. The more uniformly distributed field causes the metallic ions to be electrolytically deposited at a uniform rate over the article(s) in the panel" (column 1 lines 56-62).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have optimized the effective size of the cathode and the spacing of the cathode from the anode of Patzschke et al. through routine experimentation in order to provide a more uniform distribution of electroplating field (column 1 lines 56-62 of Reed).

Claims 10-18 and 20 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Patzschke et al. (US 4252703).

Regarding claims 10, 15-17, and 20, the instant claims are directed to a composition, however, the claims recite resultant effects of the composition without specifying any components of the composition. Since the claims are directed to a composition, the resultant effects or method steps are not given patentable weight. Therefore, the composition of Patzschke et al. would read on the instant claims.

Regarding claim 11, Patzschke et al. teaches a composition comprising an amine-modified epoxy resin which is mixed with the crosslinking resin containing terminal carboxyl groups (column 1 line 66 -- column 2 line 39).

Regarding claim 12, Patzschke et al. teaches the acid group is a product reaction of an acid anhydride and an amino group (column 9 lines 43-53). Furthermore, it is noted that how the acid group is derived or formed does not further limit the instant claim since the history of the acid group does not affect the present compound.

Regarding claim 13, Patzschke et al. teaches that the acid group is derived from a resin containing an acid group (column 9 lines 43-47). Furthermore, it is noted that how the acid group is derived or formed does not further limit the instant claim since the history of the acid group does not affect the present compound.

Regarding claim 14, Patzschke et al. teaches that the acid group is derived from an amphoteric ion group-containing resin (i.e., any of the carboxylic acid groups, column 9 lines 43-47). Furthermore, it is noted that how the acid group is derived or formed does not further limit the instant claim since the history of the acid group does not affect the present compound.

Claims 1-18 and 20 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Muramatsu et al. (JP pub 2001-019878).

Regarding claims 1, 6-8, 10, and 15-18, Muramatsu et al. teaches an electrodeposition method of forming a coating film on a galvanized steel sheet which prevents the occurrence of gas pinholes and exhibits a high throwing power. Muramatsu et al. uses an amine-modified epoxy resin (paragraph 14) which is reacted with carboxylic acid (paragraph 17 and Abstract). Since the terminals of the epoxy group are

reacted with the carboxylic acid, it would form an acid group (i.e., carboxyl group from the carboxylic acid) in the solution. It is noted that the formation of the electric through-hole which inhibits to spark discharge phenomenon and electric resistance appears to be resultant effects of the composition having an acid group. Therefore, since the composition of Muramatsu et al. contains the acid group (i.e., carboxyl group) in the amine-modified epoxy resin, one having ordinary skill in the art would expect that the same electric through-hole formation and the resultant effects would occur in the process of Muramatsu et al.

Regarding claim 11, Muramatsu et al. teaches a composition comprising an amine-modified epoxy resin which is mixed with the crosslinking resin containing terminal carboxyl groups (paragraph 14-17 and abstract).

Regarding claims 3-5 and 11-14, it is noted that how the acid group is derived or formed does not further limit the instant claims since the history of the acid group does not affect the method claims or present compound.

Regarding claim 20, the instant claim is directed to a composition, however, the claims recite resultant effects of the composition without specifying any components of the composition. Since the claims are directed to a composition, the resultant effects or method steps are not given patentable weight. Therefore, the composition of Muramatsu et al. would read on the instant claims.

Claim 19 is rejected under 35 U.S.C. 103(a) as obvious over Muramatsu et al. (JP pub 2001-019878), and further in view of Patzschke et al. and Reed.

Muramatsu et al. teaches the method as described above. In addition, Muramatsu et al. teaches a solid content of 15-25 weight percent. Since the composition of Muramatsu et al. contains an acid group (i.e., carboxyl group) in the amine-modified epoxy resin, it would have been obvious to one having ordinary skill in the art to expect that the same resultant effect, i.e., elevating the voltage at a constant rate, would occur in the process of Muramatsu et al.

Muramatsu et al. does not explicitly teach the temperature or electrode area or distance of the instant claim.

Patzschke et al. teaches a bath temperature of 20-35°C (column 11 lines 4-5).

Reed teaches that "by spacing the cathode a relatively large distance from the anode, and by making the effective size of the cathode (the articles in the panel) larger in size than the anode, there is a more uniform distribution of the electroplating field. The uniformly distributed field causes the metallic ions to be electrolytically deposited at a uniform rate over the article(s) in the panel" (column 1 lines 56-62).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the temperature of Patzschke et al. in a method of Muramatsu et al. in order to form the desired thickness of the coating. Furthermore, changes in temperature will not support the patentability of subject matter unless there is evidence indicating such temperature or concentration is critical. It is not inventive to discover the optimal or workable ranges by routine experimentation (MPEP 2144.05). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have optimized the effective size of the cathode and the spacing of the

cathode from the anode of Muramatsu et al. through routine experimentation in order to provide a more uniform distribution of electroplating field (column 1 lines 56-62 of Reed).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LUAN V. VAN whose telephone number is (571)272-8521. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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